AMENDMENTS TO THE CLAIMS

1. (currently amended) A method, implemented in a multi-homing tunneling device associated with a first site, to collect availability and latency information via polling a remote device at a second site over one or more tunnels, <u>said first and second sites each being respectively connected through a common external network, each of said sites being connected to said network through at least one link, the links at each site being connected through a respective one of said devices to said network, each tunnel connecting one link at the first site and one link at the second site such that there can be more than one tunnel from the first site to the second site,</u> said method comprising the steps of:

(a) creating a <u>first</u> tunnel between a single link in said first site and ~~a~~ <u>another</u> single link in said second site;

(b) generating packet-based traffic and polling said remote device with said generated traffic over said created <u>first</u> tunnel;

(c) based upon said polling, verifying functionality of said created<u> first</u> tunnel, determining at least one of the following: a round trip time associated with transmission of packets or a packet loss ratio between transmitted packets and received packets<u>, and</u>

<u>(d) creating a different tunnel between said first site and said second site</u>.

2. (currently amended) A method as per claim 1, wherein transmissions from said multi-homing device to said remote device comprise the steps of:

(a) for a<u> each</u> packet to be transmitted, identifying a source tunnel address corresponding to <u>the address associating the source address of the packet with the link at the source site being used for the first tunnel</u> ~~a source address of said packet~~ and identifying a destination tunnel

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address corresponding to ~~a destination address of said packet~~ <u>the address associating the</u> <u>destination address of the packet with the link at the destination site being used for the first</u> <u>tunnel</u>;

(b) modifying said packet by replacing said source address and said destination address of said packet with said source tunnel address and destination tunnel address respectively; and

(c) transmitting said modified packet through said created tunnel.

3. (currently amended) A method as per claim 1, wherein reception, in said multi-homing device, of packetized data transmitted by said remote device comprises the steps of:

(a) receiving a packet over said created <u>first</u> tunnel, wherein said packet's destination address is a destination tunnel address of said first site and said packet's source address is a source tunnel address of said second site;

(b) identifying an internal network address of <u>a</u> ~~an intended recipient~~ first station <u>in said</u> <u>first site</u> corresponding to said destination tunnel address and an internal network address of a second station in said second site corresponding to said source tunnel address;

(c) modifying said packet by replacing said destination address and said source address of said packet with said identified internal network addresses of said first station and second station respectively; and

(d) transmitting the modified packet to said <u>first station</u>~~intended recipient~~.

4. (currently amended) A method, implemented in a multi-homing tunneling device associated with at least one station in a first site, facilitating tunnel-based packetized communication transmission from a first station in said first site to a second station in a second site via one or

more links communicating over one or more networks, <u>there being one or more links connecting</u> <u>the first site to said networks and one or more links connecting the second site to said networks,</u> <u>each tunnel consisting of one link from the first site and one link from the second site, there</u> <u>being more than one tunnel available between the first site and the second site over said network,</u> said first station having a first station address associated with an internal network of said first site and said second station having a second station address associated with an internal network of said second site, said method comprising the steps of:

(a) receiving a packet from said first station, said packet identifying said first station address as a source address and identifying said second station address as a destination address;

(b) selecting, for transmission of said packet, a tunnel among a plurality of available tunnels between the first and second site, each of said tunnels formed between a single link in said first site and ~~a~~ <u>another</u> single link in said second site;

(c) based on said selected tunnel in (b), identifying a source tunnel address ~~associated~~ ~~with~~ <u>associating</u> said source address <u>with the single link at the first site being used by the</u> <u>selected tunnel</u> and identifying a destination tunnel address ~~associated with~~ <u>associating</u> said destination address<u> with the another single link at the second site being used by the selected</u> <u>tunnel</u>;

(d) modifying said packet by replacing said source address and said destination address of said packet with said source tunnel address and destination tunnel address respectively; and

(e) transmitting said modified packet through a link corresponding to said selected tunnel.

5. (original) A method as per claim 4, wherein additional packets between said first and second stations, are transmitted via said selected tunnel used to transmit said first packet.

6. (original) A method as per clam 4, wherein additional packets between said first and second stations, are transmitted via said plurality of available tunnels.

7. (original) A method as per claim 4, wherein said source tunnel address and destination tunnel address are at least partially composed from any of the following: an IP address value, a TCP port number, a UDP port number, an IP protocol header field, an Ethernet tag, and a MPLS tag value.

8. (original) A method as per claim 4, wherein said method additionally comprises the step of monitoring and identifying link failure in links associated with each site, and upon identification of such a failed link, instructing a device associated with said failed link to exclude said failed link and tunnels associated with said failed link in future communication sessions.

9. (original) A method as per claim 4, wherein said links associated with a tunnel are monitored for traffic overload and tunnels with overloaded links are avoided in selection step (b).

10. (original) A method as per claim 4, wherein each link is assigned a link load weight identifying available bandwidth, said link load weight used in selection step (b).

11. (original) A method as per claim 4, wherein each link is assigned a link preference weight identifying relative priority among available links, said link preference weight used in selection step (b).

12. (original) A method as per claim 4, wherein each tunnel between two sites is assigned a tunnel latency weight representing at least one of the following values: a round trip time value or a packet loss ratio value associated with a tunnel compared to a remainder of tunnels, said tunnel latency weight used in selection step (b).

13. (original) A method as per claim 4, wherein each tunnel between two sites is assigned a tunnel preference weight identifying relative preference among available tunnels, said tunnel preference weight used in selection step (b).

14. (currently amended) A method as per claim 4, wherein said devices exchange information regarding the address association between station addresses and the respective links ~~interfaces~~, thereby allowing each device to maintain a local station table with information regarding ~~interfaces~~ address associations within a local network and a remote station table with information regarding interfaces located on remote networks.

15. (original) A method as per claim 4, wherein said networks is any of the following: local area network (LAN), wide area network (WAN), metropolitan area network (MAN), wireless network, cellular network, or the Internet.

16. (currently amended) A method, implemented in a multi-homing tunneling device associated with at least a first station in a first site, facilitating the reception of tunnel-based packetized communications from a second station in a second site via one or more links communicating over one or more networks, there being one or more links connecting the first site to all networks and one or more links connecting the second site to said networks, each tunnel consisting of one link from the first site and one link from the second site, there being more than one tunnel available between the first site and the second site over said networks, said method comprising the steps of:

(a) receiving a packet over a link among said one or more links, wherein said packet's destination address is a destination tunnel address of said first site and said packet's source address is a source tunnel address of the second site;

(b) identifying an internal network address of said first station which is an address associated with the link at the first site being used in the tunnel with~~corresponding to~~ said destination tunnel address and an internal network address of said second station which is an address associated with the link at the second site being used in the tunnel   and with ~~corresponding to~~ said source tunnel address;

(c) modifying said packet by replacing said destination tunnel address and said source tunnel address of said packet with said identified internal network addresses of said first station and second station respectively; and

(d) transmitting the modified packet to said first station.

17. (currently amended)   A program embodied in ~~An article of manufacture comprising~~ a computer storage ~~usable~~ medium ~~having computer readable program code embodied therein~~

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implementing a multi-homing tunneling device associated with at least one station in a first site, said medium facilitating tunnel-based packetized communication transmission from a first station in said first site to a second station in a second site via one or more links communicating over one or more networks, ~~there being one or more links connecting the first site to said networks and one or more links connecting the second site to said networks, each tunnel consisting of one link from the first site and one link from the second site, there being more than one tunnel available between the first site and the second site over said network,~~ said first station having a first station address associated with an internal network of said first site and said second station having a second station address associated with an internal network of said second site, said <u>program</u> ~~method~~ comprising <u>instructions for performing</u> the steps of:

(a) ~~computer readable program code aiding in~~ receiving a packet from said first station, said packet identifying, as a source address, said first station address, and identifying, as a destination address, said second station address;

(b) ~~computer readable program code~~ selecting, for transmission of said packet, a tunnel among a plurality of available tunnels between the first and second site, each of said tunnels formed between a single link in said first site and ~~a~~ <u>another</u> single link in said second site;

(c) based on said selected tunnel in (b), ~~computer readable program code~~ identifying a source tunnel address ~~associated~~ <u>associating</u> ~~with~~ said source address <u>with the single link at the first site being used by the selected tunnel</u> and identifying a destination tunnel address ~~associated~~ <u>associating</u> ~~with~~ said destination address <u>with the another single link at the second site being used by the selected tunnel</u>;

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(d) ~~computer readable program code~~ modifying said packet by replacing said source address and said destination address of said packet with said source tunnel address and destination tunnel address respectively; and

(e) ~~computer readable program code~~ aiding in transmitting said modified packet through a link corresponding to said selected tunnel.

18. (currently amended)   A multi-homing tunneling device located at a first site facilitating tunnel-based packetized communication transmission between a first station in said first site and a second station in a second site, said communication performed over one or more external networks, <u>there being one or more links connecting the first site to said networks and one or more links connecting the second site to said networks, each tunnel consisting of one link from the first site and one link from the second site, there being more than one tunnel available between the first site and the second site over said networks,</u> said device comprising:

a first interface operatively linking said device with at least one station in said first site;

a second interface operatively linking said device with said one or more external networks via a plurality of links, said device able to communicate, over said external networks, with at least one station on a second site via a plurality of tunnels, each of said tunnels formed between a single link in said first site and a single link in said second site;

memory for storing network information associated with said tunnels and said stations <u>said information associating a station address at said site with a link from said first site as a tunnel address;</u> and

wherein said multi-homing tunneling device receives packets, via said first interface, for transmission from a station in said first site<u> selecting an available tunnel of the plurality of,</u>

~~identifies available~~ tunnels in said memory for transmitting said received packets, modifies <u>the</u> <u>stations addresses of the</u> received packets <u>to the associated tunnel address</u> based upon said identified tunnels, and transmits, via said second interface, said modified packets over said external networks to destination stations.

19. (original) A multi-homing tunneling device as per claim 18, wherein said packets are transmitted via a single tunnel.

20. (original) A multi-homing tunneling device as per clam 18, wherein said packets are transmitted via a plurality of available tunnels.

21. (original) A multi-homing tunneling device as per claim 18, wherein said device additionally monitors and identifies link failure in links associated with each site, and upon identification of such a failed link, instructs a device associated with said failed link to exclude said failed link and tunnels associated with said failed link in future communication sessions.

22. (original) A multi-homing tunneling device as per claim 18, wherein said device additionally monitors said links associated with a tunnel for traffic overload, whereby tunnels with overloaded links are avoided in transmission of packets.

23. (original) A multi-homing tunneling device as per claim 18, wherein each link is assigned a link load weight identifying available bandwidth, said link load weight used in selecting links to be used in transmission of packets.

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24. (original) A multi-homing tunneling device as per claim 18, wherein each link is assigned a link preference weight identifying relative priority among available links, said link preference weight used in selecting links to be used in transmission of packets.

25. (original) A multi-homing tunneling device as per claim 18, wherein each tunnel is assigned a tunnel latency weight representing at least one of the following values: a round trip time value or a packet loss ratio value associated with a tunnel compared to a remainder of tunnels, said tunnel latency weight used in selecting tunnels to be used in transmission of packets.

26. (original) A multi-homing tunneling device as per claim 18, wherein each tunnel is assigned a tunnel preference weight identifying relative preference among available tunnels, said tunnel preference weight used in selecting tunnels to be used in transmission of packets.

27. (original) A multi-homing tunneling device as per claim 18, wherein said networks element is any of the following: local area network (LAN), wide area network (WAN), metropolitan area network (MAN), wireless network, cellular network, or the Internet.

28. (currently amended) A multi-homing tunneling device located at a first site facilitating tunnel-based packetized communication between at least a first station in said first site and at least a second station in a second site, said communication performed over one or more external networks, <u>there being one or more links connecting the first site said external networks and one or more links connecting the second site to said external networks, each tunnel consisting of one</u>

link from the first site and one link from the second site, there being more than one tunnel available between the first site and the second site over said external network, said device comprising:

a first interface operatively linking said device with at least one station in said first site;

a second interface operatively linking said device with said one or more external networks via one or more links, said device able to communicate, over said external networks, with at least one station on a second site via a plurality of tunnels, each of said tunnels formed between a single link in said first site and a single link in said second site;

memory for storing network information associated with said tunnels and said stations said information associating a station network address at said first site with a link from that site to said networks as a tunnel address; and

wherein said multi-homing tunneling device (a) receives a packet via said second interface over said one or more links, wherein said packet's destination address is a destination tunnel address of said first site associated with a first station and said packet's source address is a source tunnel address of said second site associated with the second station; (b) identifies, from said memory, an internal network address of said first station corresponding to said destination tunnel address and an internal network address of said second station corresponding to said source tunnel address, (c) modifies the packet by replacing the destination tunnel address and the source tunnel address of the packet with the address of the first station and second station respectively, and (d) transmits the modified packet to the first station.

29. (original) A multi-homing tunneling device as per claim 28, wherein each tunnel is assigned a tunnel latency weight representing at least one of the following values: a round trip time value

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or a packet loss ratio value associated with a tunnel compared to a remainder of tunnels, said tunnel latency weight used in selecting tunnels to be used in transmission of packets.

30. (original) A multi-homing tunneling device as per claim 28, wherein each tunnel is assigned a tunnel preference weight identifying relative preference among available tunnels, said tunnel preference weight used in selecting tunnels to be used in transmission of packets.